REMARKS

Claim 1 is pending in this case. Upon entry of this Amendment, Claim 1 will be amended and Claims 3-6 will be newly added, thus Claims 1 and 3-6 will be pending in the case.

The history of this case is that an Appeal Brief was filed September 9, 2002, and in response thereto, the Examiner has re-opened prosecution of this case. Applicants acknowledge with appreciation the Examiner's decision to do so, in the hope that this case can now be successfully resolved without need for an appeal.

Applicants also want to acknowledge with appreciation the time and courtesies extended by Examiner Levy when he agreed to conduct a telephonic interview on April 10, 2003 with the undersigned and Dr. Siegfried Grimm, Patent Counsel for Assignee Bayer AG in its Leverkusen, Germany offices, to discuss the case in greater detail. Applicants believe that the telephonic interview was quite successful in clarifying issues in the case, and Applicants again wish to thank Examiner Levy for agreeing to the interview.

The 35 U.S.C. Section 112, first paragraph rejection

The Office Action rejects Claim 1 under 35 U.S.C. Section 112, first paragraph, as containing subject matter which is was not described in the specification.

More particularly, the Examiner finds no description in the specification of any solid pesticide coated onto an inorganic carrier. The Office Action alleges that Claim 1 paraphrases p.1, a, b, c, d description of the inventive aqueous suspension, but adds "in the form of a solid-applied as a coating.". The Office Action alleges that there is no disclosure of application of a solid active to support this language. The Office Action alleges that the original claim did not suggest the presence of a solid on solid, and alleges that the examples do not teach that format either. The Office Action contends that the specification teaches the application of a solution of an active agent (cyfluthrin) followed with added free particulate cyfluthrin in the aqueous suspension.

The Office Action adds that critically, the Examples in the case both show b ta-cyfluthrin dissolved in aceton th n mixed with Al_2O_3. The Office Action concludes that this is **not** a coating of cyfluthrin in solid form. It alleges that the inventive concept is seen as the coated Al_2O_3; with comparison made with solid cyfluthrin of large particle size. The Office Action then states that the inventive cyfluthrin is mixed, thus adsorbed onto, the carrier; asserting that the particle size of the carrier alone is that of the prior art cyfluthrin. The Office Action alleges that the application discloses that the carriers are coated by customary coating means, then mixed with solid additional active (citing page 4, second paragraph) or the mix of active coated carrier with free active (third paragraph, page 4), may be prepared from the active compound solution, but only normal coating means disclosed with actives in solution.

The Office Action alleges that there is not even a disclosure of how much carrier is used - only that carrier + active (Example 1) is 11.8 grams. The Office Action takes notice that free cyfluthrin is 11 microns, and the carrier is 4.8 to 22.5 microns. The Office Action admits that the two Examples in the specification are shown to provide at least the residual effects at a lower dose than the comparative example of cyfluthrin in free solid form. However, adds the Office Action, the inventive concept is not predicated on the solid active, it is preferred to use cyfluthrin, but other actives are not required to be solids - permethrin, cypermethrin pyrethroids are also preferred (referring to page 3, lines 5-6) - adding that alternatively the pyrethroids can be construed as solids.

Applicants respond to the Office Action by first pointing out that the European Patent Office is granting a patent to Applicants based on this same specification. While Applicants and the Examiner both know that this is not binding on the Examiner in this case, Applicants respectfully request that the Examiner carefully reconsider his arguments that the present specification does not support the claims, because at least one other well-respected patent examining body, the European Patent Office, does find this specification enabling for the claimed invention.

(Also with regard to the Section 102(b) rej ction discussed below, Applicants note that Ackerman was also before the European Patent Office and was fully consid r d by it, but was not seen as anticipating the present invention.) The claim that is being allowed by the European Patent Office is:

1. Aqueous suspensions of beta-cyfluthrin, characterized in that they comprise

a) 0.1 to 12.5% of an inorganic carrier having a particle size of 1 to 30 um and bearing the beta-cyfluthrin,

b) 2.5% to 10% of formulation auxiliaries,

c) 62.5 to 97.4% of water

d) 0 to 15% of glycerol

(the percentages are by weight).

As Applicants carefully point out below in the following section responding to the Section 102(b) rejection, beta-cyfluthrin **is** a solid, and when carried by the acetone onto the surface of the inorganic carrier with subsequent evaporation of the acetone, the result **is** a solid on a solid, that is to say, the solid beta-cyfluthrin is present on the solid inorganic carrier.

In any event, Applicants believe Claim 1 as amended herein is fully supported in the specification, and Applicants respectfully direct the Examiner's attention to page 2, lines 1-8, page 3, lines 10-11 and Examples 1 and 2 in the case. Applicants believe any Section 112 rejection has therefore been overcome. Withdrawal of the Section 112 rejection is respectfully requested.

The 35 U.S.C. Section 102(b) Rejection

Claim 1 stands rejected under 35 U.S.C. Section 102(b) as being anticipated by Ackerman (EP 0029626). The undersigned has been confused by some of the page and line citations in the Office Action, and has come to believe that the differences between the Examiner's and the undersigned's citations to portions of EP 0,029,626 may be due to the fact that the undersigned is using EP 0,029,626 **B**1 whereas the Examiner may be using EP 0,029,626 **A**1. In any event, the undersigned believes the context surrounding the citations will enable both the undersigned and the Examiner to locate each other's page and line citations in Ackerman.

The Office Action states that this rejection is maintained, because the applicant, to the carrier, did not apply the preferred cyfluthrin in a solid form whil equivalent pyrethroids are seen to be applied in the same manner - by customary coating processes (citing page 4, paragraph 2 of the specification). The Office Action alleges that Ackerman does all the present invention does, but the example used is cypermethrin.

The Office Action adds that otherwise, the use of an inorganic carrier with active at 0.1 to 25%, with auxiliaries of 0.6 to 23%, and carrier at 1:1 to 100:1 of active (citing page 1, 2 (a-d)), with water balance, is inclusive of the instant claim. As to the instant active, the Office Action alleges that Ackerman shows it as compound "j", page 3, and adds that the carrier is at 0.5 to 25 micrometers (citing page 3 of Ackerman).

The Office Action adds that it is stated that the pyrethroid is distributed over or adsorbed onto the carrier, citing page 1 (a)). The Office Action alleges that that is more than the Applicant discloses except at the claim 1. Referring to pages 5 and 6, the Office Action states that it describes the process in greater detail than applicants statement of preparation in a known manner.

The Office Action then states that the Examiner fails to see the process of the instant examples stating:

> "solution of cyfluthrin in acetone, followed by application to alumina. We note also, that the formulations auxiliaries no longer are claimed. We would consider them to be antifreeze, bactericide, defomer; Ackerman's Example 1 thus is within the 2% of instant parameters; 8.5% pyrethroid active, about 8 auxiliaries, and 6% antifreeze equivalent of glycerol."

The Office Action states that Applicants arguments filed September 16, 2003 were fully considered but were not considered persuasive because it was discovered that "the claim is beyond the scope of the specification".

The Office Action admits that Ackerman fails to solublize actives in acetone, it alleges that Ackerman does state the carrier is coated with active. The Office Action admits that cypermethrin is not cyfluthrin, but adds that it is one of Applicant's

pref rr d pyrethroids, and that in fact, Ackerman includes cyfluthrin in the pyrethroids, along with permethrin (a) and deltamethrin (c).

The Office Action notes applicant's arguments that Ackerman uses liquid pyrethroids while applicants use a solid, but the Office Action adds that Ackerman's label is "liquid or semi-solid", and included is the same pyrethroid. The Office Action adds that Applicants prefer cyfluthrin which applicant identifies as a solid. The Office Action adds that it cannot modify Ackerman, since it would be unsuitable, it would be unsuitable for applicant also - clearly its not. The Office Action postulates that there has to be a difference in the amount or ratio of carrier, the specific carrier, and the way in which it is applied, and then adds that Applicants claim none of this. The Office Action, somewhat unfairly in Applicants view, characterizes the claim as "generated" as an attempt to overcome Ackerman, suggesting that perhaps new matter was discovered after the application was filed, alleging further that the Examples do not describe how to obtain it.

Applicants respectfully respond as follows.

First and foremost, it is important to understand certain background information in order to fully appreciate the novelty of the present invention.

One of the important aspects to understand, is that cyfluthrin and beta-cyfluthrin are remarkably **different** substances. Cyfluthrin has a consistency at room temperature that is very much like maple **syrup**. It is a somewhat thick, relatively viscous material. It is **not** a solid material. Attached for the Examiner's convenience is a copy of the Merck Index for Cyfluthrin (**Attachment A**), in the event the Examiner would like to view for himself the properties of cyfluthrin.

In direct contrast, beta-cyfluthrin **is** a **solid**. In fact, it could be used in a suspension as its **own** particles suspended in an appropriate fluid, without any inorganic carrier being present in the fluid, since the beta-cyfluthrin is **already** a solid. (See Comparative Example 1 in the specification).

However, the point of novelty of the present invention, and that which has been heretofore unknown, is to form an aqueous suspension of an insecticidally active compound comprising the beta-cyfluthrin (a solid), **coated on the surface of another solid** (e.g. an inorganic carrier, such as those identified in the claims).

The probl m facing th prior art is how to make these insecticide suspensions last a long time after application to a surface to continue to control insects.

The present inventors have found that when beta-cyfluthrin is coated onto an inorganic carrier in an aqueous suspension, when that suspension is applied to a surface, its insect-controlling capabilities are unexpectedly extended, particularly over mere particles of beta-cyfluthrin suspended in an aqueous suspension.

Applicants' claims are directed to beta-cyfluthrin, which as pointed out above is a **solid**, which is to be coated onto **another solid**, namely the inorganic carrier. Applicants did point out in the specification at page 3, lines 10-11 that beta-cyfluthrin is a very particularly preferred pyrethroid.

At page 3, lines 14-20, Applicants clearly stated that the active applied to an inorganic carrier is present at 0.1 to 12.5% along with the other ranges set forth in that section. Applicants also recognized that when placing an active solid on a solid substrate, that certain of the active solid might be present as free active solid in the aqueous suspension when it stated: "Free active compound may be present depending upon the conditions of manufacture, for example as a result of **abrasion**". Here, abrasion refers to the process of knocking "off" or "free" some of the solid active compound present on the solid inorganic carrier as the particles collide during the process of manufacture and/or storage and/or use. Applicants point out to the Examiner that the term "abrasion" is not a term that one would normally use in this context if one were dealing with a syrupy substance such as cyfluthrin.

Again, further demonstrating the Applicants fully appreciated the solid on solid configuration of the present invention, at page 4, lines 1-3 the carrier/active compound is referred to as a "system" which could be spherical or asymmetrical in shape whose particle size could be measured for example by screen analysis. It is not likely that this type of description would be applied to a "syrup" of cyfluthrin on an inorganic substrate, but is much more in line with the present invention's point of novelty of a solid (beta-cyfluthrin) on a solid (inorganic carrier).

Recognizing that not all of the solid beta-cyfluthrin is going to make it onto the inorganic substrate, Examples 1 and 2 each then discuss the amount of free uncoat d active compound that will be present in the aqu ous suspension.

Importantly, in both Examples, th uncoated free active compound is described as having a "particle size" further indicating it is a solid. One would not have a "particle size" for a syrupy liquid such as cyfluthrin. So, clearly, the pres nt invention is referring to a solid, such as beta-cyfluthrin, which would indeed be expected to have a "particle size".

Indeed, if one simply steps back and looks at the juxtaposition of the Examples with the Comparative Example, one can easily see that the goal is to compare: 1) the Comparative Example consisting of simple particles of **solid** beta-cyfluthrin (again having a particle size, again clearly indicating a solid) **not** on any type of inorganic carrier; **with** 2) the present invention which is directed to the same **solid** beta-cyfluthrin but which **is** present on an inorganic carrier.

Applicants respectfully assert that it is an unfair characterization by the Examiner to refer to the present claim as being simply generated to overcome Ackerman or to refer to it as new matter, when, clearly, as demonstrated by the foregoing, it is not.

Applicants respectfully assert that Ackerman is not novelty destroying of the present invention. Ackerman at page 2, lines 9-12 clearly sets out what it intends to do:

> "Many pyrethroid insecticides are **liquid** or **semi**-solid materials, and therefore not susceptible to formulation as a suspension concentrate [having previously defined suspension concentrate as finely-divided water-insoluble "normally" solid pesticides suspended in water]. However, the Applicant has developed a water-based suspension for pyrethroid insecticides which possess all the advantages of "conventional" [here, clearly meaning "solid" pesticides] suspension concentrates and also possess improved pesticidal properties."

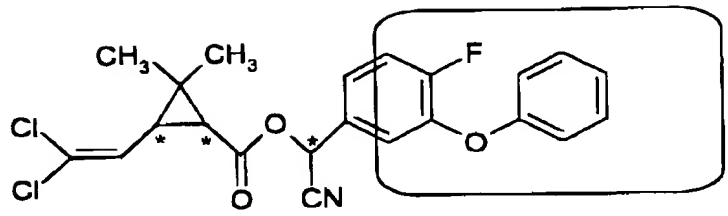
Applicant fails to see how it could be any clearer that Ackerman was attempting to find ways to make suspension concentrates out of **liquids** or **semi**-solids, and was in no way attempting to capture the present invention, which is the placement of **solid** beta-cyfluthrin on a **solid** carrier in accordance with the present invention. This is supported again and again in Ackerman. See page 2, line 14

wherein it refers to a liquid or semi-solid pesticide. See line 25 on the same page for the same point. See lines 49-51 on the same page wherein it is stated by Ackerman that "The present invention is concerned with...pyrethroids...which are liquids or semi-solids at ambient temperatures." See page 3, lines 45-46 of Ackerman wherein it is stated: "The water-based suspension according to the present invention differs from conventional suspension concentrates by virtue of its ability to suspend in water, liquid or semi-solid pesticides..."

Nowhere could the undersigned find where Ackerman referred to beta-cyfluthrin in his specification or claims, and this is clearly set forth in the pending Claims 4 and 5 in the instant case. Nor, as admitted on page 4 of the Office Action does Ackerman include in his list of carriers (see page 2, lines 55-59) **any** of the carriers present in newly added Claims 3 or 5. Nor, does Ackerman disclose dissolving the beta-cyfluthrin in acetone, as set forth in newly added Claims 4 and 5.

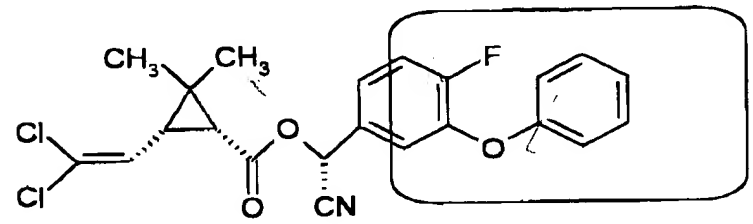
Applicants wish to point out that at page 3 of the Office Action, the Examiner contends that Ackerman shows the instant active as item "j" on page 3 of Ackerman. Applicants cannot find an item "j" on page 3 of Ackerman (perhaps because because the undersigned is using EP 0,029,626 **B**1 while the Office may be using EP 0,029,626 **A**1 as pointed out above.) The undersigned notes that an item "j" is found on page 2 of its version of Ackerman, but not only is that **not** beta-cyfluthrin, it is not **even** cyfluthrin. More particularly, Ackermann et al provide formulations for pyrethroides, and it gives a list of twelve specific pyrethroids (page 2, compounds (a) to (l)). At a first glance, compound (j) looks similar to cyfluthrin, but the compounds are different, as the following comparison clearly shows.

Cyfluthrin



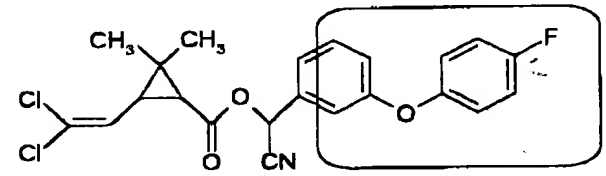
[*] means: unstated stereochemistry: product is a mixture of four isomers.

beta-Cyfluthrin



one out of four possible isomers

compound (j) of Ackerman



In summary, Ackermann et al do not disclose cyfluthrin or beta-cyfluthrin.

For all of the foregoing reasons, Applicants believe the claims of the present invention are novel and define over the art of record. Review and reconsideration of the claims and allowance thereof are respectfully requested.

If any issues remain, Applicants r spectfully invit and in fact resp ctfully urg the Examiner to telephone the undersigned before issuing any additional Office Actions in the hope that such issues might thereby be r solved.

Respectfully submitted

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